

**Amendments to the Claims:**

Please amend the claims to read as follows:

1. (Original) Method for the production of  $\alpha, \beta$ -unsaturated amide compounds having the general formula (I):



wherein,

R<sub>1</sub> and R<sub>2</sub> are independently hydrogen; optionally linear or branched (C<sub>1</sub>-C<sub>18</sub>) alkyl or (C<sub>1</sub>-C<sub>18</sub>) alkenyl substituted with hydroxy, halogen, phenyl, substituted phenyl, or an ester group [-C(O)Oalkyl] or an amide group [-C(O)NH<sub>2</sub> or -C(O)NHalkyl]; optionally phenyl substituted with halogen;

or

R<sub>1</sub> or R<sub>2</sub> comprises a group Y-R<sub>6</sub>; in which

Y is oxygen (-O-); sulphur (-S-); -NR<sub>7</sub>-; or dialkylsilyloxy [-(alkyl)<sub>2</sub>Si-O-];

R<sub>6</sub> is hydrogen, optionally linear or branched (C<sub>1</sub>-C<sub>18</sub>) alkyl substituted with hydroxy, halogen, phenyl, substituted phenyl or with an ester group [-C(O)OAlkyl] or an amide group [-C(O)NH<sub>2</sub>] or [-C(O)NHAlkyl]; optionally phenyl substituted with halogen;

R<sub>7</sub> is (C<sub>1</sub>-C<sub>18</sub>) alkyl or -N(R<sub>6</sub>)(R<sub>7</sub>) is a 5- or 6-membered heterocyclic ring;

or

R<sub>1</sub> together with R<sub>3</sub> is directly bonded or a group having the formula -(CH<sub>2</sub>)<sub>n</sub>-; in which

n is a whole number from 1 to 12;

or

R<sub>1</sub> together with R<sub>2</sub> is cyclohexylidene;

or

R<sub>1</sub> together with R<sub>5</sub> and the incorporated (C=C)-double bond is cyclohexenyl;

or

R<sub>1</sub> together with R<sub>5</sub> and the incorporated (C=C)-double bond forms a group of a monounsaturated bicyclic ring;

R<sub>3</sub> is hydrogen, optionally a linear or branched (C<sub>1</sub>-C<sub>12</sub>) alkyl substituted with phenyl, hydroxyl, or halogen, carrying one or more oxygen atoms, (C<sub>5</sub>-C<sub>8</sub>)-cycloalkyl or (C<sub>5</sub>-C<sub>8</sub>)-cycloalkenyl, carrying one or more oxygen atoms; preferably, phenyl substituted with halogen or hydroxyl; or R<sub>3</sub> together with R<sub>1</sub> is directly bond or forms a group of the formula -(CH<sub>2</sub>)<sub>n</sub>;

R<sub>4</sub> has one of the meanings of R<sub>3</sub>, preferably hydrogen, optionally linear or branched (C<sub>1</sub>-C<sub>12</sub>) alkyl substituted with phenyl, hydroxyl, or halogen, optionally phenyl substituted with halogen or hydroxyl; or

-NR<sub>3</sub>R<sub>4</sub> a 5- or 6-membered heterocyclic ring; and

R<sub>5</sub> has one of the meanings specified for R<sub>1</sub> or R<sub>2</sub> as independent substituents, wherein said method comprises the steps of:

(A) reacting a compound of the general formula (II):



wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> have the meanings specified above, to introduce protective groups so as to produce a compound of the general formula (III):

wherein R<sub>8</sub> is trialkylsilyl, or (when R<sub>4</sub> = hydrogen) together with R<sub>9</sub> forms the group -C(O)-(CH<sub>2</sub>)<sub>m</sub>-C(O)- and

R<sub>9</sub> (when R<sub>4</sub> = hydrogen) is alkyloxycarbonyl or phenoxy carbonyl, preferably Boc (= tert. butyloxy-carbonyl); or trialkylsilyl, or together with R<sub>8</sub> the group -C(O)-(CH<sub>2</sub>)<sub>m</sub>-C(O)-, and

m is 0, 1, 2, or 3, preferably 0 or 1, preferably 0,  
and in the case in which for the compound of the general formula (II) hydroxyl is present, it is reacted, with a monovalent protective group R<sub>8</sub> and/or R<sub>9</sub>;

(B) reacting the compound obtained in step (A) in the presence of (i) a dehydrogenation catalyst and in the presence of (ii) an oxidising agent, such as optionally substituted benzoquinone, allyl methyl carbonate, allyl ethyl carbonate and/or allyl propyl carbonate,  
to introduce an  $\alpha$ ,  $\beta$ -double bond in the  $\alpha$ ,  $\beta$ -position, and

(C) optionally removing, if present, the protective groups R<sub>8</sub>, as well as the substituent R<sub>9</sub>.

2. (Original) Method according to claim 1, wherein R<sub>1</sub> and R<sub>2</sub> are independently hydrogen, optionally linear or branched (C<sub>1</sub>-C<sub>8</sub>) alkyl or (C<sub>1</sub>-C<sub>8</sub>) alkenyl substituted with hydroxy, phenyl, phenyl substituted with halogen or hydroxy, or with a (C<sub>1</sub>-C<sub>4</sub>) alkyl ester group or an amide group or (C<sub>1</sub>-C<sub>4</sub>) alkyl amide group, preferably, phenyl substituted with halogen; preferably linear or branched (C<sub>1</sub>-C<sub>8</sub>) alkyl or (C<sub>1</sub>-C<sub>8</sub>) alkenyl, benzyl or phenyl.

3. (Original) Method according to claim 1, wherein R<sub>2</sub> is hydrogen and R<sub>1</sub> is linear or branched (C<sub>1</sub>-C<sub>8</sub>) alkyl or (C<sub>1</sub>-C<sub>8</sub>) alkenyl, benzyl or phenyl or Y-R<sub>6</sub>.

4. (Original) Method according to claim 1, wherein R<sub>1</sub> is hydrogen and R<sub>2</sub> is linear or branched (C<sub>1</sub>-C<sub>8</sub>) alkyl or (C<sub>1</sub>-C<sub>8</sub>) alkenyl; benzyl or phenyl or Y-R<sub>6</sub>.

5. (Original) Method according to claim 1, wherein R<sub>1</sub> together with R<sub>3</sub> is directly bonded or forms a group of the formula -(CH<sub>2</sub>)<sub>n</sub>- and n is a whole number from 1 to 12; or R<sub>1</sub> together with R<sub>2</sub> is cyclohexylidene; or R<sub>1</sub> together with R<sub>5</sub> is cyclohexenyl.

6. (Original) Method according to claim 1, wherein Y in the group Y-R<sub>6</sub> is oxygen.

7. (Currently Amended) Method according to claim 1, wherein R<sub>6</sub> is hydrogen, optionally linear or branched (C<sub>1</sub>-C<sub>8</sub>) alkyl or phenyl substituted with hydroxy, halogen, phenyl, phenyl substituted with halogen, or an (C<sub>1</sub>-C<sub>4</sub>)alkyl ester group or an amide group or a (C<sub>1</sub>-C<sub>4</sub>)alkyl amide group; optionally phenyl substituted with halogen; preferably hydrogen, optionally linear or branched (C<sub>1</sub>-C<sub>8</sub>) alkyl substituted with phenyl, or with a (C<sub>1</sub>-C<sub>4</sub>) alkyl ester group or an amide group or a (C<sub>1</sub>-C<sub>4</sub>) alkyl amide group; or phenyl; preferably hydrogen, linear or branched (C<sub>1</sub>-C<sub>8</sub>) alkyl or phenyl.
8. (Original) Method according to claim 1, wherein the substituent -N(R<sub>6</sub>)(R<sub>7</sub>) as heterocyclic ring is a pyrrolidine or piperidine.
9. (Original) Method according to claim 1, wherein the compound of the formula (II) represents a lactam of an omega amino fatty acid, preferably aminobutyric acid, omega aminovaleric acid, omega aminocapronic acid, or omega aminolauric acid.
10. (Original) Method according to claim 1, wherein the compound of the formula (I), R<sub>1</sub> together with R<sub>5</sub> and the incorporated (C=C)-double bond represent a monounsaturated bicyclic ring, preferably a norbornyl group optionally substituted with hydroxyl or amino, preferably a norbornyl group.
11. (Currently Amended) Method according to any of claims 1 to 10 claim 1, wherein R<sub>3</sub> and R<sub>4</sub> are independently hydrogen, linear or branched (C<sub>1</sub>-C<sub>4</sub>) alkyl optionally substituted with phenyl, phenyl; or the group -NR<sub>3</sub>R<sub>4</sub> is pyrrolidine or piperidine.
12. (Original) Method according to claim 1, wherein R<sub>5</sub> is hydrogen, tert. butyl or optionally phenyl substituted with halogen or hydroxyl, preferably hydrogen; and R<sub>8</sub> is trimethylsilyl or R<sub>8</sub> together with R<sub>9</sub> is the group -C(O)-(CH<sub>2</sub>)<sub>m</sub>-C(O)-; or R<sub>9</sub> is Boc, trimethylsilyl, or R<sub>9</sub> together

with  $R_8$  is the group  $-C(O)-(CH_2)_m-C(O)-$ , in which  $m$  is 0, 1, 2, or 3, preferably 0 or 1, preferably 0.

13. (Original) Method according to claim 1, wherein  $R_9$  is alkyloxycarbonyl, isobutyloxycarbonyl, tert. butyloxycarbonyl, tertiary amyloxycarbonyl, cyclobutyloxycarbonyl, 1-methylcyclobutyloxycarbonyl, cyclopentyloxycarbonyl, cyclohexyloxycarbonyl, 1-methylcyclohexyl, preferably tertiary butyloxycarbonyl.

14. (Currently Amended) Method according to ~~one of the claims 1-13~~ claim 1, wherein the dehydrogenation catalyst [in step (B)] is selected from amongst compounds (salts and complexes) of the transition metals of the periodic system, preferably from compounds of the metals of Group VIII elements, in particular from iron, ruthenium and osmium; cobalt, rhodium, and iridium; nickel, palladium and platinum; copper, silver and gold preferably from compounds based on rhodium, palladium and platinum.

15. (Original) Method according to claim 14, wherein the dehydrogenation catalyst is a palladium compound, preferably a  $Pd(0)$  compound, preferably a tris(dibenzylidene acetone) dipalladium chloroform complex or a  $Pd(II)$  compound, preferably  $PdCl_2$ ,  $Pd(dppe)_2$ ,  $Pd(dppe)Cl_2$ ,  $Pd(OAc)_2$ ,  $Pd(dppe)(OAc)_2$ ,  $\pi$ -allyl  $Pd$  complex, preferably  $\pi$  -allyl  $Pd$  chloride dimer.

16. (Currently Amended) Method according to ~~one of the claims 1-15~~ claim 1, wherein an additional complexing agent is used for the thermal stabilisation of the palladium complex, preferably 2,2'-bipyridyl or 1,10-phenanthroline.

17. (Currently Amended) Method according to ~~one of the claims 1-16~~ claim 1, wherein the quinone is a substituted quinone, preferably a quinone substituted with  $C_{1-4}$  alkyl, halogen, cyano or nitro.

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18. (Currently Amended) Compounds A compound produced according to ~~one of the claims 1-17~~ the method of claim 1.